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MCGINN & GIBB, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER	
SUCHECKI, KRYSTYNA	

ART UNIT	PAPER NUMBER
2882	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/892,500	HOSOI, TORU
	Examin r	Art Unit
	Krystyna Suchecki	2882

-- Th MAILING DATE of this communication appears on the cover sh et with the corr spond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4 and 10-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 10-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's amendments to claims 16-23 have overcome the restriction requirement set forth in the Office action dated 07/31/03. Claims 16-23 have been rejoined to group I, and an action on the merits follows below.

Claim Objections

2. Claims 14, 16, 20, 23 and 26 are objected to because of the following informalities: Claim 14 references a "second parabolic waveguide part", however, there is no reference to a first parabolic waveguide part attached to the first slab so as to give meaning to the second. Claim 16 uses the term "parabolized", but does not define or describe exactly how this affects the channel waveguide. It is unclear if the term imparts a parabolic shape to the channel waveguide array, or if it foreshadows the parabolic waveguide part attached to the channel waveguide array. Further, Claim 16 lacks proper antecedent for "each waveguide comprising said second channel waveguide". Claim 20 is grammatically incorrect in line 1 ("the forming the core"). Further, there is no proper antecedent for the "core opening width". Claim 23 references "each waveguide" in line 2. A plurality has not been introduced in order to give proper antecedent to "each". Also, it is unclear how the core opening width is "common" with varying wavelengths. While arguments have been presented to explain the term "common", the claim language does not readily make apparent the property as argued. Claim 26 is objected to since the "waveguide part" is not properly introduced as being "in the connected area". Appropriate correction is required.

Drawings

3. The drawings are objected to because, while Applicant has shown where both "Z" and "z" are mentioned in the specification, "Z" has not been defined. It is not clear what [CAPITAL] "Z" is defined to be. It is also not clear what the distinction is between [lowercase] "z" and [capital] "Z". The original drawing objection was made since no definition of "Z" had been given in the disclosure, yet it is shown in the drawings. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: a distinction and/or definition for "Z" and "z" has not been made.

5. Appropriate correction is required.

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Regarding claim 24, "a routing that is shaped to form a parabola" may have antecedent to the drawings, but it is not clear where it has antecedent in the specification. The specific language in the claim does not have antecedent to specific terminology in the specification.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 10-12 and 14are rejected under 35 U.S.C. 102(e) as being anticipated by Okawa (US 6,069,990).

9. Regarding Claim 1, Figure 3A of Okawa teaches an arrayed waveguide grating comprising a substrate (11); a first channel waveguide (8) disposed on the substrate; a channel waveguide array (6) disposed on said substrate and constituted such that each length of waveguides is sequentially longer with a predetermined difference between the lengths of the waveguides; a first slab waveguide (7) disposed on said substrate and connecting said first channel waveguide with said channel waveguide array; a second slab waveguide (3) disposed on said substrate and connecting an end of said channel waveguide array on the side wherein said first slab waveguide has not been connected thereto with an end thereof; and a second channel waveguide (2) disposed on said substrate and connected to the other end of said second slab waveguide, wherein a waveguide part (5) in the connected area has a parabolic configuration. While the system of Okawa is shown in the figures as having the waveguide part on the input, it is understood that system can have a waveguide part on the output since Okawa teaches that the device can be reversed such that light enters from the output of the figures and then exits from the input (Column 7, lines 36-42).

10. Regarding Claim 10, the parabolic configuration of Okawa can be defined by a quadratic function (Figure 3D).

11. Regarding Claim 11, Okawa teaches a width of the waveguide part equal to {2(alpha)(lambda)/(n_eff) (L-Z) + W_c^2}^1/2 as set forth in the claim (Figure 3D). This is

understood since the (L-Z) portion of Okawa can be considered equivalent to the "Z" portion of Applicant, especially since no language by Applicant precludes this equivalence.

12. Regarding Claim 12, Okawa teaches a waveguide part having a core width measuring from approximately one to five times a width of a Gaussian distribution produced in a boundary between the second slab waveguide and the second channel waveguide, since Okawa teaches a Gaussian-shaped signal passing through the waveguide part (Particulars of Figures 5A-6B).

13. Regarding Claim 14, Figure 3A of Okawa teaches an arrayed waveguide grating wherein a first slab waveguide (3) comprises first and second parabolic waveguide parts (5).

14. Claims 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Han (US 6,188,818).

15. Regarding Claim 24, Figures 1 and 2 of Han teaches an arrayed waveguide grating comprising a substrate, a first channel waveguide (210) disposed on the substrate (110), a parabolized channel waveguide array (114), disposed on said substrate, comprising a plurality of parabolized waveguides of differing lengths, each waveguide in said plurality of waveguides formed in a routing that is shaped to form a parabola; a first slab waveguide (212) disposed on said substrate and connecting said first channel waveguide with said parabolized channel waveguide array, a second slab waveguide (216) disposed on said substrate and connecting an end of said channel waveguide array on the side wherein said first slab waveguide has not been connected thereto with an end thereof.

16. Regarding Claim 25, Han teaches the parabolized channel waveguide array is formed such that each length of said parabolized waveguides is sequentially longer (Figure 1, 114, particulars).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 4, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa in view of Okamoto (JP 10-197735).

19. Regarding Claims 4, 13 and 15 Okawa teaches an array waveguide grating with a parabolic waveguide part above. Okawa implies that the waveguide part may be individually adjusted with respect to each waveguide, and therefore, each wavelength, of the array waveguide grating (Column 7, lines 19-25, and as evidenced by the dependence upon wavelength of the equation representing the parabolic waveguide portion).

20. Okawa fails to explicitly teach the grating wherein the waveguide part is individually adjusted in response to respective wavelengths of multiplexed optical signals input to a first channel waveguide, and therefor also fails to explicitly teach the parabolic waveguide part is adjusted to compensate for varying optical transmission widths and insertion loss of the optical transmissions. Okawa also fails to explicitly teach the core width at the perimeter of a parabolic waveguide part as formed to have varying widths as appropriate for varying wavelengths of multiplexed optical signals input to a first channel waveguide.

21. Okamoto teaches a parabolic waveguide part individually adjusted in response to respective wavelengths of multiplexed optical signals input to a first channel waveguide for the purpose of obtaining flat light frequency characteristics (Solution) and adjustment of the

waveguide part to compensate for varying optical transmission widths (Particulars of W_1, W_2 and W_3) and insertion loss of the optical transmission (Problems to be Solved by the Invention). The core width at a perimeter of a parabolic waveguide part is formed to have varying widths as appropriate for varying wavelengths of multiplexed optical signals input to said first channel waveguide in order to produce a flattened light distribution (Paragraphs 19-26) and relaxed tolerances (Paragraph 35).

22. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to individually adjust the waveguide part in response to respective wavelengths of multiplexed optical signals input to a first channel waveguide, and therefor also adjust the parabolic waveguide part to compensate for varying optical transmission widths and insertion loss of the optical transmissions, and to allow the core width at the perimeter of a parabolic waveguide part to have varying widths as appropriate for varying wavelengths of multiplexed optical signals input to said first channel waveguide as taught by Okamoto in the device of Okawa in order to obtain flat light frequency characteristics, reduced optical loss (Okamoto, Solution and Problems) and relaxed tolerances (Paragraph 35).

23. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han in view of Okawa.

24. Regarding Claim 16, Figures 1 and 2 and Claim 1 of Han teach a device and therefor a method for fabricating a device for multiplexing-demultiplexing an optical transmission, comprising:

a. forming a first channel waveguide (210) on a substrate, said first channel waveguide serving as an input signal waveguide for a multiplex operation in a multiplex/demultiplex process;

b. forming a second channel waveguide (118, 218) on said substrate, said second channel waveguide serving as an output signal waveguide for said multiplex/demultiplex process;

c. forming a parabolized channel waveguide array (114, 214) on the substrate, wherein each length of the waveguides in the array is sequentially longer;

d. connecting, with a first slab waveguide (112, 212), said first channel waveguide to a first end of said channel waveguide array; and

e. connecting, with a second slab waveguide (116, 216), a second end of said channel waveguide array to said second channel waveguide, wherein an end of each waveguide comprising said second channel waveguide that connects to said second slab waveguide includes a tapered waveguide part (Circular enlargement of Figure 2).

25. Han fails to explicitly teach the channel waveguide array including a parabolic waveguide part.

26. Okawa teaches a similar arrayed waveguide as Han, but additionally teaches a parabolized waveguide part (Figures 3B and 3D) for outputting optical signals (Column 7, lines 35-41). Figure 4 also teaches a centrally-dipped profile, and Figures 5A-6B teach increased flatness of the spectral response. The dip of Okawa is greater than the dip of Han, and the flatness of Okawa is flatter than Han.

27. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the parabolic waveguide part of Okawa on the output side of the system of Han since the parabolic waveguide part enhances the flatness of the spectral response by at least causing a greater central-dip of the frequency response.

28. Regarding Claim 17, Han teaches said parabolized channel waveguide array comprising an array with a predetermined difference in the lengths of the waveguides (as shown for items 114, 214).

29. Regarding Claim 18, Okawa teaches said parabolic waveguide part as formed as an element preadjusted to a specific signal wavelength (See "lambda" portion of equation in Figure 3D).

30. Regarding Claim 19, Okawa teaches a parabolic waveguide part comprising a parabolic width W(z) that equals {2(alpha)(lambda)/(n_eff) (L-Z) + W_c^2}^1/2 as set forth in the claim (Figure 3D). This is understood since the (L-Z) portion of Okawa can be considered equivalent to the "Z" portion of Applicant, especially since no language by Applicant precludes this equivalence.

31. Regarding Claim 20, Okawa teaches forming a core opening width by forming width from approximately one to five times a width of a Gaussian distribution produced in a boundary between the second slab waveguide and the second channel waveguide, since Okawa teaches a Gaussian-shaped signal passing through the waveguide part (Particulars of Figures 5A-6B).

32. Regarding Claim 21, Okawa teaches adjusting the waveguide part to compensate for varying optical transmission widths and insertion loss of the optical transmissions. This is

understood since the waveguide part is engineered to consider loss characteristic even upon a variation in wavelength of a light source (Column 7, lines 44-54).

33. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Han and Okawa as applied to claim 16 above, and further in view of Dragone (US 5,002,350).

34. Han in view of Okawa teaches a parabolized waveguide grating with a parabolic waveguide part on a second slab waveguide above.

35. Han and Okawa fail to teach a first channel waveguide formed so that a part connecting to the first slab waveguide is shaped to form a second parabolic waveguide part.

36. Figure 1 of Dragone teaches an array waveguide grating between two slab waveguides. The slab waveguides each have, and are further connected to, an additional channel waveguide. The slabs have parabolic waveguide parts (Equation 8) at the interfaces of the channel and array waveguides for the purpose of causing negligible higher order mode generation (Column 1, lines 57-68).

37. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the device of Han and Okawa a second parabolic waveguide part on the first slab as taught by Dragone for the purpose of causing negligible higher order mode generation (Dragone, Column 1, lines 57-68).

38. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Han and Okawa as applied to claim 16 above, and further in view of Okamoto (JP 10-197735).

39. Regarding Claim 23, Han and Okawa teach a parabolized array waveguide grating with parabolic waveguide part above. Okawa implies that the waveguide part may be adjusted individually for each waveguide, and therefore, each wavelength, of the array waveguide grating (Column 7, lines 19-25, and as evidenced by the dependence upon wavelength of the equation representing the parabolic waveguide portion).

40. As best understood by the claim language, Han and Okawa fail to explicitly teach a core opening width of each waveguide comprising said second channel waveguide as common with varying wavelengths of multiplexed optical signals input to said first channel waveguide and a width of an opening of said parabolic waveguide part as preset in accordance to a specific wavelength.

41. Okamoto teaches a parabolic waveguide part individually adjusted in response to respective wavelengths of multiplexed optical signals input to a first channel waveguide for the purpose of obtaining flat light frequency characteristics (Solution) and adjustment of the waveguide part to compensate for varying optical transmission widths (Particulars of W_1, W_2 and W_3) and insertion loss of the optical transmission (Problems to be Solved by the Invention). The core width at a perimeter of a parabolic waveguide part is formed to have varying widths as appropriate for varying wavelengths of multiplexed optical signals input to said first channel waveguide in order to produce a flattened light distribution (Paragraphs 19-26) and relaxed tolerances (Paragraph 35).

42. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a core opening width of each waveguide comprising the second channel waveguide as common with varying wavelengths of multiplexed optical signals input to

the first channel waveguide and a width of an opening of said parabolic waveguide part as preset in accordance to a specific wavelength as taught by Okamoto in the device of Han and Okawa in order to obtain flat light frequency characteristics, reduced optical loss (Okamoto, Solution and Problems) and relaxed tolerances (Okamoto, Paragraph 35).

43. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Han (US 6,188,818) in view of Okawa (US 6,069,990).

44. Regarding Claim 26, Han teaches a waveguide part (Figure 3 and Figure 2, enlarged portion) and a second channel waveguide (118) disposed on said substrate and connected to the other end of said second slab waveguide. Han teaches other shapes for the taper are feasible (Column 7, lines 5-9), and that the taper is designed in order to have a final frequency response having a centrally-dipped profile in order to increase flatness of the spectral response (Column 6, lines 40-45 and Figure 6).

45. Han does not specifically teach a parabolic configuration for the waveguide part.

46. Okawa teaches a similar arrayed waveguide as Han, but additionally teaches a parabolized waveguide part (Figures 3B and 3D) for outputting optical signals (Column 7, lines 35-41). Figure 4 also teaches a centrally-dipped profile, and Figures 5A-6B teach increased flatness of the spectral response. The dip of Okawa is greater than the dip of Han, and the flatness of Okawa is flatter than Han.

47. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the parabolic waveguide part of Okawa on the output side in the

system of Han since the parabolic waveguide part enhances the flatness of the spectral response by at least causing a greater central-dip of the frequency response.

48. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han and Okawa as applied to claim 26 above, and further in view of Okamoto (JP 10-197735).

49. Regarding Claims 27-28, Han and Okawa teach a parabolized array waveguide grating with parabolic waveguide part above. Okawa implies that the waveguide part may be adjusted individually for each waveguide, and therefore, each wavelength, of the array waveguide grating (Column 7, lines 19-25).

50. Han and Okawa fail to explicitly teach the array waveguide grating wherein the parabolic configuration of the waveguide part is preadjusted according to a wavelength and also fails to teach the waveguide part parabolic configuration as individually preadjusted according to respective wavelengths of multiplexed optical signals input to said first channel waveguide.

51. Okamoto teaches a parabolic waveguide part individually adjusted in response to respective wavelengths of multiplexed optical signals input to a first channel waveguide for the purpose of obtaining flat light frequency characteristics (Solution) and adjustment of the waveguide part to compensate for varying optical transmission widths (Particulars of W_1, W_2 and W_3) and insertion loss of the optical transmission (Problems to be Solved by the Invention).

52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the parabolic waveguide part adjusted as taught by Okamoto in the

device of Han and Okawa in order to obtain flat light frequency characteristics and reduced optical loss (Okamoto, Solution and Problems).

Response to Arguments

53. Applicant's arguments filed 10/31/03 have been fully considered but they are not persuasive.

54. Regarding arguments on page 25 of Applicant's response, the enhanced flattening of the parabolic configuration over Han's taper has been addressed by the 103 rejections on this feature, wherein it is taught by Okawa that the parabolic configuration offers better flattening that Han. That Han teaches a taper does not discredit his acknowledgement that parabolic configurations are known in the art, nor does it dissuade a skilled artisan from further investigating the parabolic reference in Han. Also, the emphasis of Applicant upon the input configuration of Okawa and Okamoto was addressed in the After Final interview and again above, wherein the reversibility of the system of Okawa was emphasized such that signals could enter the ports labeled as outputs in the system of Okawa, thereby causing the parabolic waveguide part to be on the output side of the device (See Okawa, Column 7, lines 35-42). Regarding arguments that the application of Dragone requires a parabolic equation rather that Dragone's teaching of curved configurations, Applicant also has not furnished a parabolic equation for the waveguide part in all instances of the claim for the parabolic waveguide part. Also, no special definition has been provided by Applicant regarding the parabolic waveguide part so as to preclude the application of a definition that the part simply be "bowl-shaped" (See for example Merriam-Webster's Collegiate Dictionary, 10th edition, page 839, definition of

"parabola"), nor does anything in the claim preclude the teaching that the representation of equation 8 of Dragone is for a nonlinear (curvaceous) taper.

55. Regarding arguments on page 26, Applicant has not provided any evidence to support or substantiate the arguments that Dragone's invention does not allow signal flattening, or that Dragone's teachings could not be applied as suggested by Examiner. It is unclear how a wide angle of acceptance on the taper of Dragone, one that would accommodate as much as possible of the central Brillouin zone of the signal, would not allow signal flattening. Absent evidence, the argument that the increased coupling efficiency leads to an output that cannot be flattened is not persuasive.

56. Arguments that Han fails to teach a parabolized channel waveguide are not persuasive. No special equation or definition has been made to emphasize the criticality of the shape or to preclude the application of Han. Based on Figure 3 and the disclosure, the channel waveguides of Han appear to be parabolized, especially in the lower four channel waveguides. While some of the channel waveguides are shown with bends, it is noted that the patent drawings are merely schematic representations of the represented invention and are not drawn to scale.

57. Regarding arguments of page 27, a skilled artisan would be able to ascertain the necessity of having loss characteristics or mode characteristics as the focus of their routineering. Han acknowledges the tradeoff, as well as the benefit of spectral flattening. Arguments that the combination of Han and Okawa is deficient are not persuasive. The parabolic configuration on waveguide part of the output side of the system, as taught by Okawa, was relied upon in the rejection to create a parabolic waveguide part on the output side of the system of Han and Okawa. The statement in Okawa that "a wavelength multiplexed optical signal is output from the

input waveguides" seems clear in its indication that the system is reversible to have the parabolic waveguide part on the output side of the system, since an optical signal in now entering through the output, so as to exit the priorly shown input.

58. Regarding arguments on page 28 that lines cited in Okawa reference a taper, line citations are a courtesy to the Applicant and minor further investigation would reveal the "design parameter of each waveguide." Further, Okamoto was relied upon to teach adjustability and customization of the system to accommodate multiple wavelengths and core widths, not for teaching a parabolic portion on an input or output side. The citation of equation 8 was made as it encompasses several other equations in its explanation, including equations that are explained as being non-linear (curvaceous) tapers. As already addressed, no special definition by Applicant precludes the application of Dragone.

Conclusion

59. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (571) 272-2495. The examiner can normally be reached on M-F 9-6, with alternating Fridays off.

60. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

61. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER